

## **Bringing design practice into healthcare**

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# Bringing design practice into healthcare

Joe Langley

*Lab4Living | Sheffield Hallam University*

**"IMAGINATION IS  
MORE IMPORTANT  
THAN KNOWLEDGE."**

- ALBERT EINSTEIN -

**"For knowledge is limited to all we now know and understand.  
Whilst imagination embraces the entire world and all  
there ever will be to know and understand."**

- Me
- Design
- Participatory Design
- How is this relevant to Improvement?

- **Me**
- Design
- Participatory Design
- How is this relevant to Improvement?

# Me

Mechanical Engineer (MEng)

Glass Technologist

Mechanical Engineer (PhD)

**Design Engineer**

**Design Researcher**

**Microsystems Service Improvement Coach (STH)**

**NIHR Knowledge Mobilisation Research Fellow**

**Honorary Research Fellow at STH NHS FT**

**Honorary Research and Innovation Fellow at SCH NHS FT**

- The University of Sheffield
- Glass Technology Services
- The University of Sheffield
- **Sheffield Hallam University**
- **Lab4Living**
- **STH NHS FT**
- **NIHR CLAHRC YH**
- **NIHR Devices for Dignity HTC**
- **TITCH (paeds HTC)**
- **SCR LEP Med Tech Group**

# Me

- Head-Up - a customisable neck support for people with neck weakness (NIHR i4i)
  - Design for Rehabilitation - 'Design Thinking' to improve self-efficacy (Health Foundation SHINE)
  - Support4all - dignity bra for breast cancer to aid set-up and reproducibility of radiotherapy (NIHR i4i)
  - Personalised NIV - 3D printing customised interfaces for children to optimise NIV therapy (NIHR i4i)
  - TITCH - Technology and Innovation Transforming Child Health (NIHR paediatrics HTC themes)
  - NIHR Knowledge Mobilisation Research Fellowship
  - 1st dip cleanable nurse call hand unit (Mediplan), a 'pop-up' male urinal (Vernacare)...etc...
- 
- Embedded designers for service innovation (Health Foundation Innovating for Improvement application)
  - Virtuality Reality as training preparation for prosthetic arms (NIHR i4i application)
  - Personalised inhalers for children - linking usage to Tamagotchi games (GlaxoSmithKline application)
  - Virtuality Reality games rehab for toddlers with hand burns - 'popping balloons' (NIHR i4i application)
  - 'Print your pain'; chronic pain therapy based on externalisation (NIHR i4i application)
  - Female Urinal development (NIHR i4i application)

# Me

**NIHR Knowledge Mobilisation Research Fellow**

**- what can participatory design practice offer to knowledge mobilisation?**

- generating ideas
- making 'things' tangible

- Me
- **Design**
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- How is this relevant to Improvement?



# Design

**“Creativity”** is the generation of new ideas.

**“Innovation”** is the successful exploitation of new ideas.

**“Design”** is what links creativity and innovation. It shapes ideas to become practical and attractive propositions to users and customers. Design may be described as creativity deployed to a specific end”

**"IMAGINATION IS  
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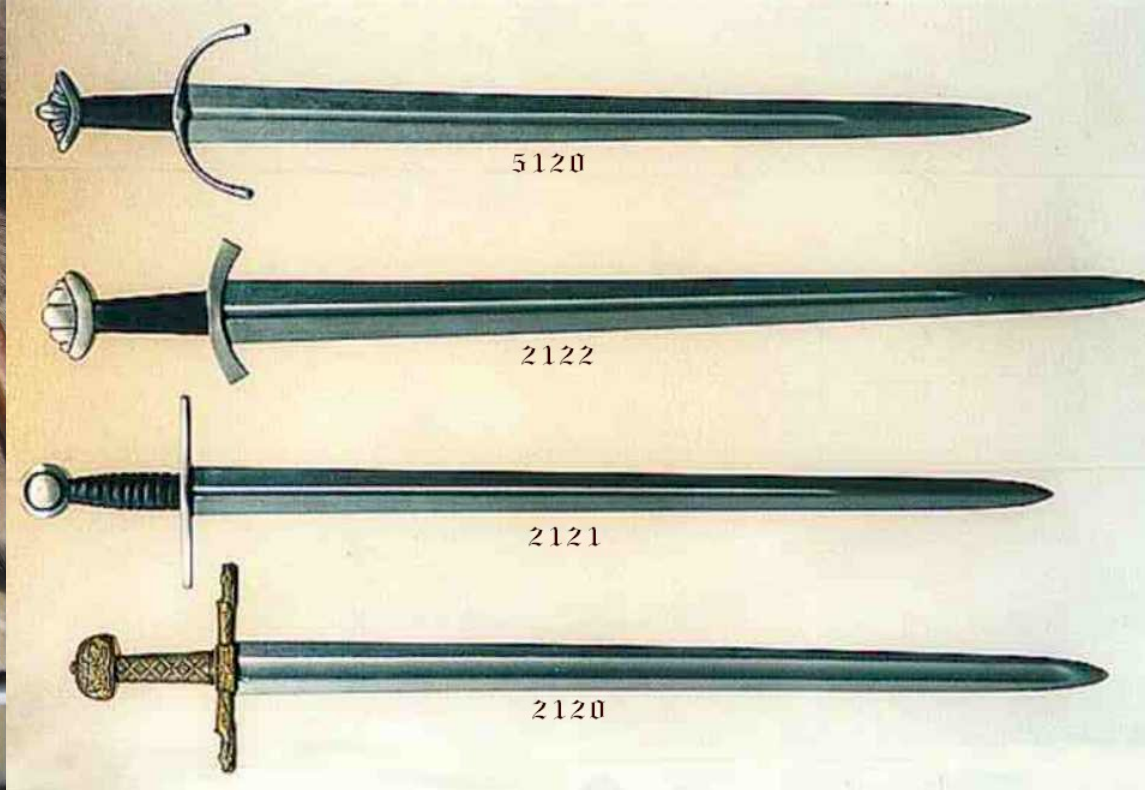
- ALBERT EINSTEIN -

**“A designer is an emerging synthesis of artist, inventor, mechanic, objective economist and evolutionary strategist.”**

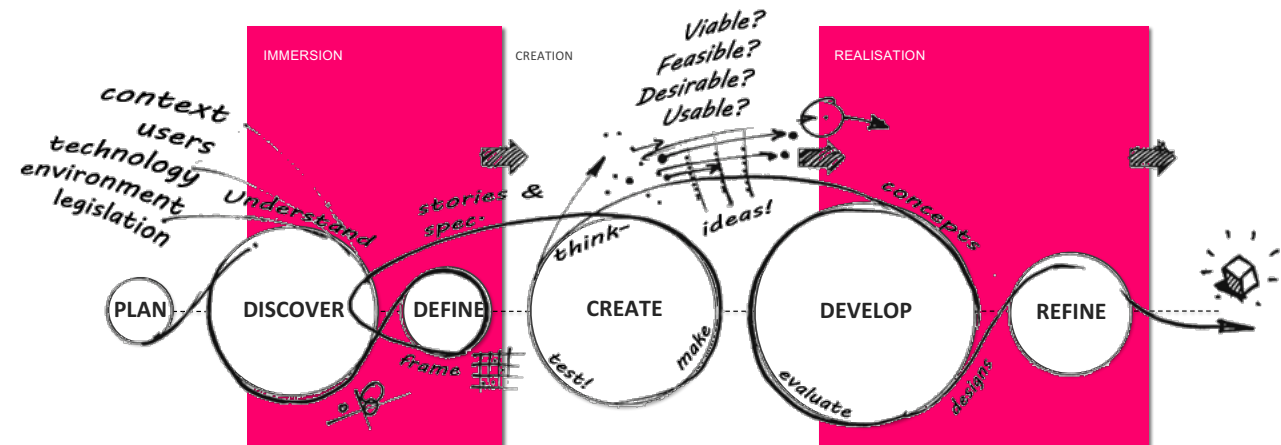
**- Buckminster Fuller**



# Design



# Design



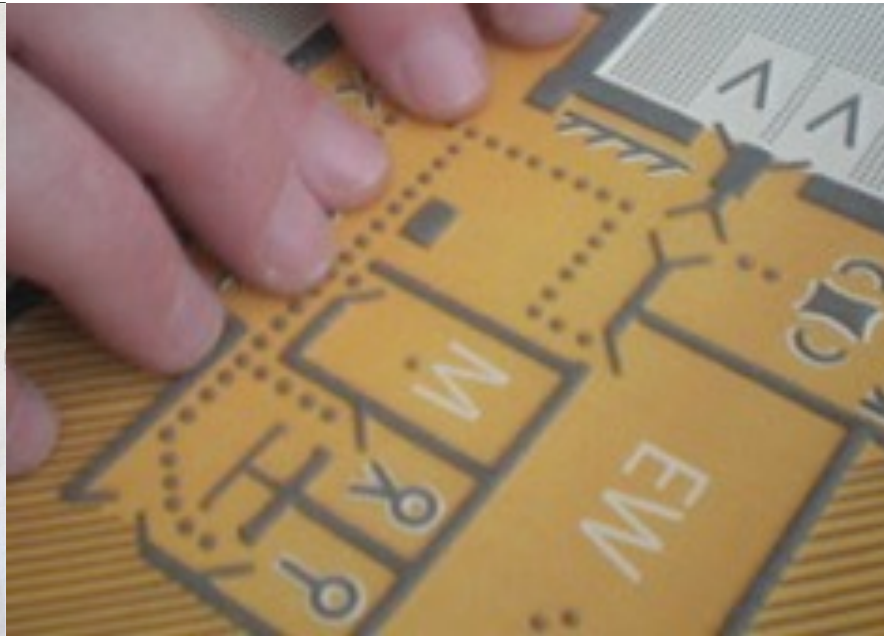
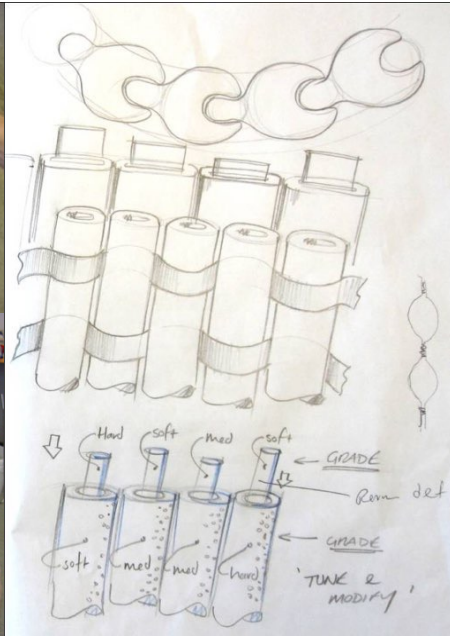
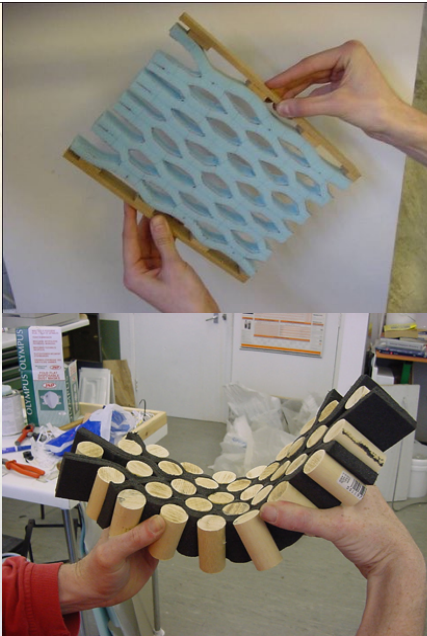
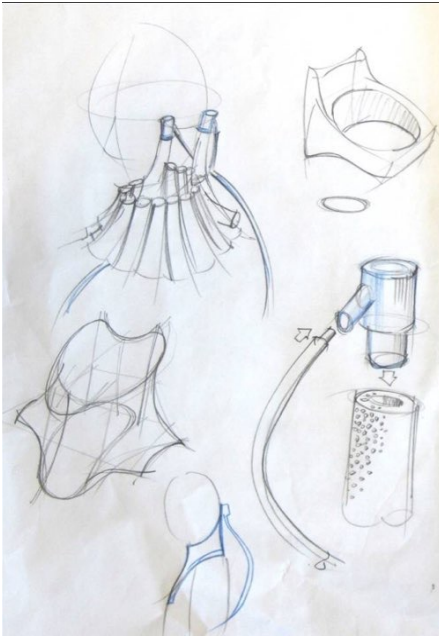


# Design

**Design** is not a science at all – and nor, incidentally, is it an art.  
Design is a ***practice*** – specifically, an uncertain, paradox-laden, judgement-dependent, science-using, technology-supported practice, catalysed and driven by creativity and the imagination.



# Design



- Me
- Design
- **Participatory Design**
- How is this relevant to Improvement?



# Participatory Design



**"IMAGINATION IS  
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THAN KNOWLEDGE."**

- ALBERT EINSTEIN -

**"If you have an apple and I have an apple and we exchange apples  
then you and I still have one apple.  
But if you have an idea and I have an idea and we exchange ideas,  
then each of us will have two ideas."**

**- George Bernard Shaw**

# Participatory Design

***think***  
***WITH YOUR HANDS***

The concept of '*Cognitive Interaction*'  
- from '**How designers work**' by Henrik Gedenryd



# Participatory Design

## Deduction

What + How = ??

## Induction

What + ?? = Result

## Abduction 1

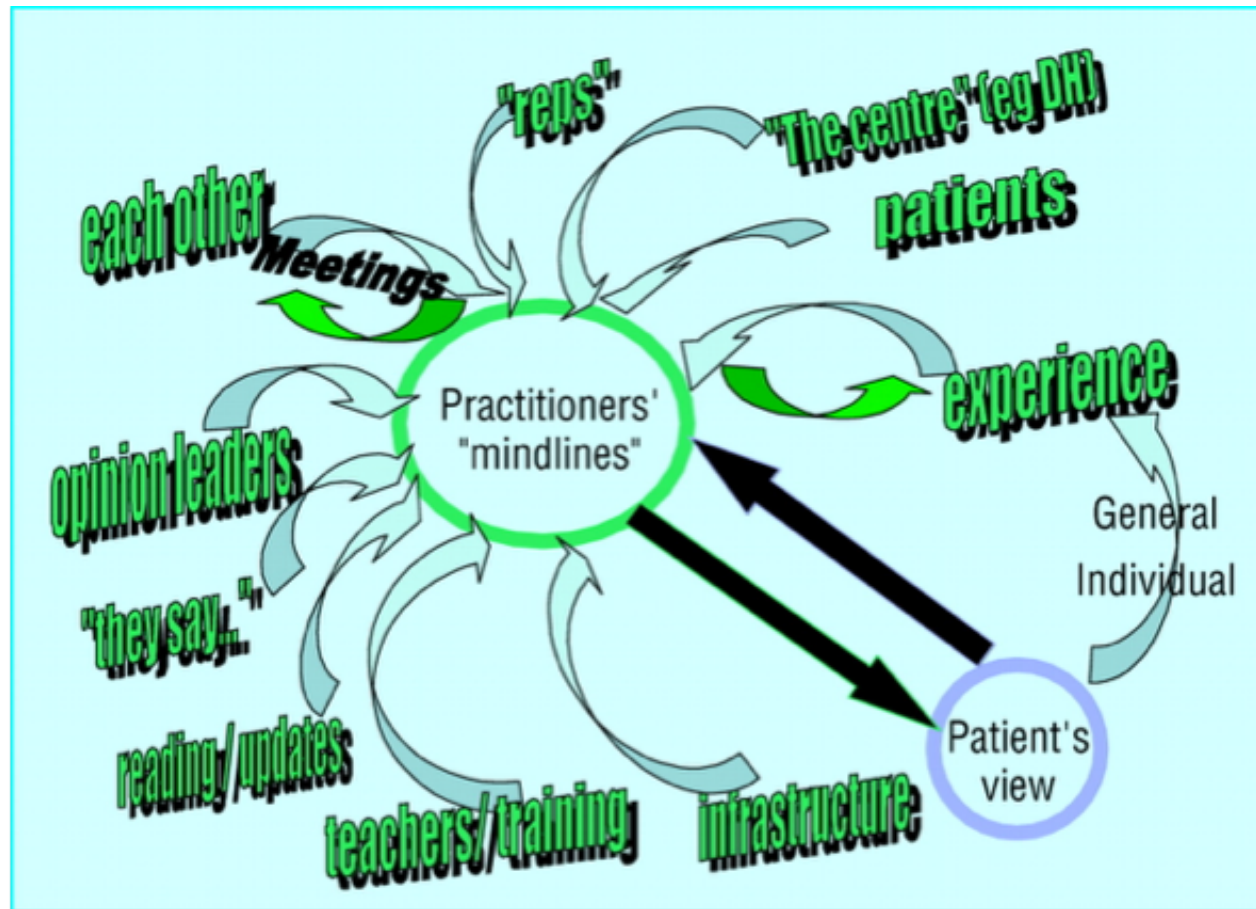
?? + How = Result

## Abduction 2

?? + ?? = Result

- Me
- Design
- Participatory Design
- **How is this relevant to improvement?**

# How is this relevant to improvement?



John Gabbay, and Andrée le May BMJ 2004;329:1013

# How is this relevant to improvement?



**"IMAGINATION IS  
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- ALBERT EINSTEIN -

**"Culture eats strategy for breakfast."**

**"Doing the right thing is more important than doing the thing right."**

**"What gets measured gets improved."**

- Peter Drucker

# Summary

- Participatory Design Practice supports innovation, knowledge mobilisation and improvement initiatives through:
  - the generation of ideas
  - a culture of 'making':
    - ➔ making ideas tangible
    - ➔ real time synthesis synthesis
    - ➔ testing and validation of different stakeholder priorities
    - ➔ graphical and physical language for culturally meaningful communication

# Summary

The creative mindset of the designer - the design thinking approach, has potentially incredible value to health researchers and practitioners for both implementation and improvement.

Not merely as a formularised process but also as a mindset.

- undergraduate training
- designer involvement

# Summary

April 12th - 24th - USA (San Francisco, Stanford, Boston, Rochester)

Sites that have designers and/or design thinking embedded within innovation models aiding implementation and improvement

I will be proposing a UK model and collaborating with Sheffield Teaching Hospitals and Sheffield Children's Hospital to test this





### 3rd European Conference

13th - 16th July 2015 Sheffield UK

Lab4Living is pleased to announce the 3rd European conference on Design4Health. Our third biennial conference brings together designers and creative practitioners with researchers, clinicians, policy makers and service users to discuss, disseminate and test their approaches and methods. Our events provide an opportunity to reflect on how the disciplines of design and health might develop new ways of thinking and working, and how we might impact positively and sustainably on the social, economic and cultural factors within our communities and beyond.

# Thank you

[www.lab4living.org.uk](http://www.lab4living.org.uk)

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